

## **REMARKS**

Claims 1-16 are pending in the present application. Claims 1 and 13 have been amended. Claims 1 and 13 are independent. Claim 12 stands withdrawn from consideration as being directed to a non-elected invention. Reconsideration of this application, as amended, is respectfully requested.

### **Election/Restriction**

Applicants acknowledge the election of Group I, claims 1-11 in the reply to Restriction Requirement dated April 25, 2002. Applicants submit that claims 13-15 are directed to the elected invention. While not conceding the appropriateness of the Examiner's Restriction Requirement, if the remaining claims are found to be allowable, Applicants will cancel non-elected claim 12 at that time. Applicants reserve the right to file a Divisional Application directed to the method of claim 12 at a later date if it is so desired.

### **Rejections Under 35 USC § 103**

Claims 1-11 and 13-16 stand rejected under 35 USC §103(a) as being unpatentable over Canadian Patent Application Publication No. 2,047,010 to Burkhardt in view of JP 2000-212866 to Iwata et al. These rejections are respectfully traversed.

The present invention is directed to a cleaning sheet, which includes a non-woven fabric having 10 to 90% by weight of thermoplastic fibers and 10 to 90% by weight of cellulosic fibers. The thermoplastic fibers have a fiber length of 2 to 15mm and a fineness of 10 to 150 dtex. Furthermore, the non-woven fabric has a number of tips of said thermoplastic fibers "forming the non-woven fabric" exposed on the surface of the cleaning sheet to have the capability of scouring or scraping dirt off of a soiled surface. The number of tips of the thermoplastic fibers is 20-4000/cm<sup>2</sup>. Independent claims 1 and 13 exemplify the above aspects of the present invention. Independent claim 13 requires the additional recitation "wherein said thermoplastic fibers are bonded at intersections thereof."

The cleaning sheet according to the present invention exhibits excellent scouring or scraping properties against soil by using thermoplastic fibers of a non-woven fabric that are exposed on the surface of the cleaning sheet. In addition, the cleaning sheet according to the present invention does not scratch a surface to be cleaned. Applicants respectfully submit that the references relied on by the Examiner fail to teach or suggest the present invention and therefore are unable to accomplish the advantages of the present invention.

The Examiner asserts that Burkhardt discloses the cleaning sheet of the present invention, except for the substrate sheet comprising a mixture of

cellulosic and thermoplastic fibers and the number of tips of the surface. However, the Examiner relies on the Iwata et al. reference to modify Burkhardt to include cellulosic and thermoplastic fibers. Also, the Examiner has taken the position that the number of tips of thermoplastic fibers would be an obvious modification of Burkhardt. Applicants respectfully submit that the combination of references relied on by the Examiner fail to render obvious the presently claimed invention.

In particular, Burkhardt discloses plastic fibers 3 that are attached to a substrate 2 or an absorbent 5. Referring to page 4, last paragraph of Burkhardt, the following is stated:

1 in Fig. 1 is a device in the form of a cleaning cloth that has a substrate 2 which consists of a fabric made from plastic fibres to which plastic fibres 3 and 4 are attached. These plastic fibres 3 and 4 are made of polyester and are glued at one end to the substrate 2 in a way not illustrated in the drawing. (emphasis added).

In view of the above descriptions in Burkhardt, it becomes clear that the Burkhardt reference fails to disclose "said non-woven fabric having a number of tips of said thermoplastic fibers forming the non-woven fabric exposed on a surface of said cleaning sheet" as recited in independent claims 1 and 13 of the present invention.

With regard to the Examiner's reliance on Iwata et al., the Examiner has only relied on this reference for its teaching of a non-woven fabric having cellulosic fibers and thermoplastic fibers. There is no disclosure in Iwata et al. with regard to a "non-woven fabric having a number of tips of said thermoplastic fibers forming the non-woven fabric exposed on the surface of said cleaning sheet" as recited in the independent claims of the present invention. Accordingly, Iwata et al. fails to make up for the deficiencies of Burkhardt.

With regard to the Examiner's modification of Burkhardt to include the number of tips recited in the independent claims of the present invention, Applicants submit that the Examiner has not established a *prima facie* case of obviousness. The Burkhardt reference is silent with regard to an awareness that the number of tips of thermoplastic fibers provides any advantage to the cleaning sheet of Burkhardt. Specifically, Burkhardt is not aware that the number of tips is a result effective variable. Applicants determined this awareness. "If there is no evidence that a person of ordinary skill in the art at the time of applicants' invention would have expected problem to exist at all, it is not proper to conclude that invention which solves this problem, which is claimed as an improvement of prior art device, would have been obvious to that hypothetical person." *In re Nomiya*, 184 U.S.P.Q. 607, 608 (CCPA 1975). In

the present case, the Burkhardt reference fails to recognize that optimizing the number of tips of thermoplastic fibers forming the non-woven fabric provides the advantageous cleaning results of the present invention. Accordingly, one having ordinary skill in the art would not have recognized that such a modification would provide any advantage to the Burkhardt cleaning sheet. In view of this, the modification proposed by the Examiner would not have been obvious to one having ordinary skill in the art.

In the Examiner's Office Action, "With regard to the number of tips on the surface, it would have been obvious to have optimized the number of cleaning tips in the Burkhardt reference in order to arrive at a cleaning sheet having the optimum cleaning ability."

It has been held that "[t]here must be a reason apparent at time invention was made to person of ordinary skill in the art for applying the teaching at hand, or use of teaching as evidence of obviousness will entail prohibited hindsight." *Id.* at 608. This is exactly what the Examiner is doing in the present case. The Examiner has not provided any evidence that the prior art recognizes that the number of tips of thermoplastic fibers will affect the cleaning ability of the cleaning sheet of Burkhardt and therefore one having ordinary skill in the art would not know to look for a solution by optimizing the

number of tips of the thermoplastic fibers that form the non-woven fabric. Accordingly, the Examiner is conducting prohibited hindsight.

Furthermore, “a patentable invention may lie in the discovery of the source of a problem even though the remedy may be obvious once the source of the problem is identified.” *In re Sponnoble*, 160 U.S.P.Q. 237, 243 (CCPA 1969). Accordingly, the Examiner must first provide evidence that one having ordinary skill in the art was aware of a problem before the Examiner can modify a prior art reference to arrive at the present invention. Since the Examiner has not provided evidence of an art recognized problem, the Examiner’s rejection is improper and should be withdrawn.

In view of the above, Applicants submit that the Examiner’s position that it would be obvious to optimize the number of tips in Burkhardt is without basis. Since the prior art does not recognize that the number of tips can affect the cleaning action of the cleaning sheet, one having ordinary skill in the art would not know to “optimize” the number of tips as asserted by the Examiner. Accordingly, the Examiner’s rejection should be withdrawn.

With regard to dependent claims 2-11 and 14-16, Applicants respectfully submit that these claims are allowable due to their respective dependence upon allowable independent claim 1, as well as due to the additional limitations recited by these claims.

In view of the above amendments and remarks, Applicants respectfully submit that claims 1-11 and 13-16 clearly define the present invention over the references relied on by the Examiner. Accordingly, reconsideration and withdrawal of the rejection under 35 USC § 103 are respectfully requested.

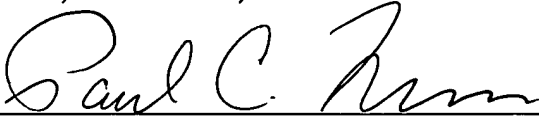
### CONCLUSION

If any questions remain regarding the above matters, please contact Applicant's representative Paul C. Lewis (Reg. No. 43,368), at the phone number listed below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

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